GCS/138/BBMP/YNK/Pkg 4/2020-21/149 Date: 24.03.2021

To,

The Executive Engineer,
Yelahanka Division,
Bruhat Bengaluru Mahanagara Palike (BBMP),
Bangalore – 560064

FREQUENCY AND QUALITY REPORT

Sub: Regarding Quality Report for the below mentioned work.

Name of Work: Comprehensive Development of Roads and Drains at Maruthinagara 3rd Main Road, Mathru Layout, Someshwara Nagara, Sharda Nagara and B Sector in Ward No-01, 02, & 04. of Yelahanka Division (PACKAGE NO-04)

Sl. NO.	Description of Work	Unit	Quantity	No of samples tested	Standards
1	Providing and laying plain/reinforced cement concrete for side drains walls & bottom thickness 15cm using M20 nominal mix concrete	Cum	3346.94	70	Per 50 Cum
2	Providing TMT Bars Fe 500 steel reinforcement for RCC	MT	198.885	9	Per Dia of steel
3	Construction of un-reinforced plain cement concrete for pavement, using a grade concrete M30	Cum	254.93	10	Per 50 Cum
3	Construction of Granular Sub-Base Grading V as sub base and drainage layer	Cum	61.24	1	Per 400Cum
4	Providing, laying, spreading and compacting crushed stone aggregates of granite / trap / basalt to wet mix macadam	Cum	216.06	1	Per 200Cum
6	Providing and laying dense graded with 4.5 % VG-30 Bitumen crushed aggregates	Cum	198.18	2	Per day 2 tests
8	Providing and laying bituminous concrete 40mm thick with 5.4 % of modified bituminous binder	Cum	727.31	6	Per day 2 tests

Asst. Executive Engineer BBMP Yelahanka Sub Division

With respect to the above subject & name of the work, we have inspected the work and the Quantity and Quality of above mentioned items of the work was found to be completed satisfactorily for the first and Part bill.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪವಿಭಾಗ ಬಿಬಿಎಂಪಿ
ಕ.ಪ.ಬಿ.ಎ. ಬೆಂಗಳೂರು-106

For GOOLY CONSULTANCY SERVICES.,

Gooly Consultancy Services Bangalore

PROJECT MANAGER

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, Email : info@gcsfirm.com, goolyconsultancyservices@yahoo.com, www.gcslabindia.com

Lab ID : GCS-138-10119-1
Date : 17/02/2021

TEST REPORT ON PHYSICAL PROPERTIES OF CEMENT

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Sample ID No: 10119-1
Location: Ch:0.00 to 381m ward 4, B sector 13th B main, drain
Sampling : Sample Received from the site and Tested
Sample Identification*: Dalmia OPC 33 grade
Reference to BIS codes: **Test Method:**

IS 4031(Part 1):1996(RA 2016) Determination Of Fineness By Dry Sieving
IS 4031 (Part 4):1988 (RA 2019) Determination Of Consistency Of Standard Cement Paste
IS 4031 (Part 5):1988 (RA 2019) Determination Of Initial & Final Setting Time
IS 4031 (Part 6):1988 (RA 2019) Determination Of Compressive Strength
IS 4031 (Part 11):1988 (RA 2019) Determination Of Density

Specification :

IS 1489 (Part - 2) : 1991 Portland pozzolona Cement- Specification (3rd revision)

Condition of sample: Satisfactory
Date of test: 19/01/2021 to 16/02/2021

Asst. Executive Engineer BBMP Yelahanka Sub Division

Sl.No	Physical properties	Results	Units	Requirement as per IS 269: 2015		
				33 Grade	43 Grade	53 Grade
1	Standard Consistency	26	%	Not specified	Not specified	Not specified
2	Initial Setting time	160	minutes	Min 30 minutes	Min 30 minutes	Min 30 minutes
3	Final Setting time	290	minutes	Max 600 minutes	Max 600 minutes	Max 600 minutes
4	Fineness by dry sieving	6.1	%	-	-	-
8	Density	3.16	g/cm^3	-	-	-

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರ
ಯಲಹಂಕ ಉಪವಿಭಾಗ ಬಬಿಬಿಎಂಪಿ
ಬೆ.ಮ.ನ.ಪಾ. ಬೆಂಗಳೂರು-106

Lab ID : GCS-138-10119-2
Date : 23/01/2021

TEST REPORT ON MECHANICAL PROPERTIES OF COARSE AGGREGATES

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Sample ID No: 10119-2
Location: Ch:0.00 to 381m ward 4, B sector 13th B main, drain
Sample Identification*: 20mm down size Coarse Aggregate
Sampling : Sample Received from the site and Tested
Reference to BIS codes: **Test Method:**

Executive Engineer BBMP Yelahanka Sub Div

IS 2386 (Part 1) : 1963 (RA 2016) Particle Size And Shape Cl 2
IS 2386 (Part 3) : 1963 (RA 2016) Specific gravity, density, voids, absorption and bulking
IS 2386 (Part 4) : 1963 (RA 2016) Mechanical Properties

Specification:

IS 383 : 2016 Coarse And Fine Aggregate For Concrete

Condition of sample: Satisfactory
Date of test: 19/01/2021 to 27/01/2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM COARSE AGGREGATE:

Total weight taken: 5000 grams

Sl.No	Sieve Designation	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Requirement as per IS 383: 2016 Table-7 (Cl 6.1 & 6.2)	
						Graded	Single-Sized
1	40 mm	0	0	0	100	100	100
2	20 mm	352	352	7.04	92.96	90-100	85-100
3	10 mm	3241	3593	71.86	28.14	25-55	0-20
4	4.75 mm	1203	4796	95.92	4.08	0-10	0-5
5	Pan	204	5000	100	0	---	---

Lab ID : GCS-138-10119-2
Date : 25.01.2021

TEST REPORT ON PHYSICAL PROPERTIES OF FINE AGGREGATE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Sample ID No: 10116-2
Location: Ch:0.00 to 381m ward 4, B sector 13th B main, drain
Sampling : Sample Received from the site and Tested
Sample Identification : M Sand
Reference to BIS codes: **Test Method**

Asst. Executive Engineer BBMP Yelahanka Sub Division

IS 2386 (Part 1) : 1963 (RA 2016) Particle Size And Shape Cl.2
IS 2386 (Part 3) : 1963 (RA 2016) Specific gravity, density, voids, absorption and bulking
IS 2386 (Part 4) :1963 (RA 2016) Mechanical Properties

Specification:
IS 383 : 2016 Coarse and fine aggregate for concrete

Condition of sample: Satisfactory
Date of test: 19/01/2021 to 23/01/2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF FINE AGGREGATE:

Total weight taken: 1000 grams

SL.No	Sieve Designation	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383 : 2016 Table-9, (Cl-6.3)				Remarks
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV	
1	10 mm	0	0	0	100	100	100	100	100	The tested Sample confirms to Grading Zone- II
2	4.75 mm	0	0	0	100	90-100	90-100	90-100	95-100	
3	2.36 mm	65	65	6.5	93.5	60-95	75-100	85-100	95-100	
4	1.18 mm	314	379	37.9	62.1	30-70	55-90	75-100	90-100	
5	600 micron	245	624	62.4	37.6	15-34	35-59	60-79	80-100	
6	300 micron	290	914	91.4	8.6	5-20	8-30	12-40	15-50	
7	150 micron	54	968	96.8	3.2	0-10	0-10	0-10	0-15	
8	Pan	32	1000	100	0	---	---	---	---	

Lab ID : GCS-138-10119-4
Date : 25.01.2021

TEST REPORT ON MECHANICAL PROPERTIES OF REINFORCEMENT STEEL

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)

Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Location: Ch:0.00 to 381m ward 4, B sector 13th B main, drain
Sampling : Sample Received from the site and Tested
Reference to BIS Codes: **Test Method:**
IS 1608 (Part 1) : 2018, Metallic Materials, Tensile Testing, Method of Test at Room Temperature
IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement - Bend & Rebend Test
Specification:
IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement
Condition of sample: Satisfactory
Date of test: 19/01/2021 to 23/01/2021

Asst. Executive Engineer
BBMP
Yelahanka Sub Division

Sl. No	Sample Identification	Sample ID No	Nominal size (dia in mm)	Mass per meter (kg/meter)	TENSILE STRENGTH				Bend Test	Re Bend Test
					0.20 % proof stress/ yield stress (N/mm^2)	Tensile strength (N/mm^2)	TS/YS ratio	Elongation percent on gauge length		
1	RD TMT Fe 550	10119-4/1a	08	0.396	708	783	1.10	25.0	–	–
	RD TMT Fe 550	10119-4/1b	08	0.394	–	–	–	–	No Rupture or Crack Visible	–
	RD TMT Fe 550	10119-4/1c	08	0.395	–	–	–	–	–	No Rupture or Crack Visible

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬ.ಬ.ಮ.ಪ, ಬೆಂಗಳೂರು-106

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave, Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-138-10119-S
Date : 3/16/2021

TEST REPORT ON CEMENT CONCRETE CUBES

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name of Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Sample Identification*: C C Cube / 150mmx150mmx150mm / M - 30 / 28 days Compressive Strength
Reference to BIS Codes: **Test Method:**
IS 516 : 1959 (RA 2018) Methods Of Tests For Strength Of Concrete Cl.5
Specification:
IS 456 : 2000 (RA 2016) Plain And Reinforced Concrete - Code Of Practice
Condition of sample: Satisfactory

Asst. Executive Engineer
Yelahanka Sub Division
BBMP

Compressive Strength : 30N/mm² as per IS 456 : 2000 (RA 2016) Plain And Reinforced Concrete - Code Of Practice

Sl.No	Sample Identification mark on CC Cubes	Location	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of cube (grams)	Failure Load (kN)	Compressive strength (N/mm²)	Average Compressive strength of 3 Cubes (N/mm²)
1	1/1	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8432	700	31.1	31.6
	1/2	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8652	690	30.7	
	1/3	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8652	740	32.9	
2	1/1	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8463	720	32.0	31.1
	1/2	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8652	680	30.2	
	1/3	3rd main 2nd cross road	M-30	12-Feb-21	12-Mar-21	150*150 *150	22500	8465	700	31.1	
3	1/1	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8659	695	30.5	31.6
	1/2	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8421	740	31.6	
	1/3	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8593	720	32.7	
4	1/1	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8496	700	31.1	31.8
	1/2	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8592	725	32.0	
	1/3	3rd Main 3rd cross road	M-30	13-Feb-21	13-Mar-21	150*150 *150	22500	8425	740	32.2	
5		3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8519	695	31.6	31.8
	1/2	3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8550	680	31.8	
	1/3	3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8427	735	32.0	

GOOLY CONSULTANCY SERVICES

ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017

Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076

Contact: +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Sl.No	Sample Identification mark on CC Cubes	Location	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of cube (grams)	Failure Load (kN)	Compressive strength (N/mm^2)	Average Compressive strength of 3 Cubes (N/mm^2)
6	1/1	3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8408	680	32.2	31.9
	1/2	3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8426	695	32.5	
	1/3	3rd Main 9th Cross Road Left Side	M-30	15-Feb-21	15-Mar-21	150*150 *150	22500	8443	700	31.1	
7	1/1	3rd Main 9th Cross Road Left Side	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8543	725	32.2	31.9
	1/2	3rd Main 9th Cross Road Left Side	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8492	735	32.7	
	1/3	3rd Main 9th Cross Road Left Side	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8529	695	30.9	
8	1/1	3rd Main 4th cross road	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8472	735	32.7	32.4
	1/2	3rd Main 4th cross road	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8553	740	32.9	
	1/3	3rd Main 4th cross road	M-30	16-Feb-21	16-Mar-21	150*150 *150	22500	8423	710	31.6	
9	1/1	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8530	700	31.1	31.5
	1/2	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8460	730	32.5	
	1/3	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8524	695	30.9	
10	1/1	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8550	700	31.1	30.7
	1/2	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8479	695	30.9	
	1/3	3rd Main 4th cross road	M-30	17-Feb-21	17-Mar-21	150*150 *150	22500	8520	680	30.2	

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the IS 456 : 2000 specification / project requirement with respect to above tests conducted.

1. The test results pertain to the sample of samples as furnished by the customer
2. Any correction in the report will make this report invalid.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Asst. Executive Engineer
Yelahanka Sub Division
BBMP

Prepared By:
Pushpa

Tested By:
Ashwini

Gooly Consultancy Services Bangalore

Project Manager

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರ
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076
Contact: +91-80-42277023/24, 9535200024, Email : info@gcsfirm.com, goolyconsultancyservices@yahoo.com, www.gcslabindia.com

Lab ID : GCS-138-10119-6
Date : 03.03.2021

TEST REPORT OF GRADATION FOR GSB

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name of Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 02.03.2021
Sample ID No: 10119-6
Date of Sample Collection: 02.03.2021
Chainage/Location/Land Mark: Ch:0.00 to 250.8m ward 4,Someshwaranagara, sai apartment main road
Date of testing: 02.03.2021
Reference to BIS codes: IS 2386 (Part 1):1963 (RA 2016) Particle Size and Shape Cl.2
Layer: GSB
Oven Dry Wt (gm): 10000

Sl No	Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	As per MORTH 5th Revsion Table 400.1 (Garding V)
1	75	0	0	0.00	100.00	100
2	53	155	155	1.55	98.45	80-100
3	26.5	2315	2470	24.70	75.30	55-90
4	9.5	3986	6456	64.56	35.44	35-65
5	4.75	865	7321	73.21	26.79	25-50
6	2.36	1025	8346	83.46	16.54	10-20
7	0.85	986	9332	93.32	6.68	2-10
8	0.425	656	9988	99.88	0.12	0-5
9	pan	12	10000	100.00	0.00	-

Asst. Executive Engineer BBMP Yelahanka Sub Division

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By: Pushpa D B

Tested By: Ashwini

Gooly Consultancy Services Bangalore

Project Manager

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-41273023/24, 9535200824, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-138-10119-8
Date : 09.03.2021

TEST REPORT OF BITUMEN CONTENT & GRADATION FOR DENSE BITUMINOUS MACADAM

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Sample Collection: 08.03.2021
Chainage/Location /Land Mark: Ch:0.00 to 250.8m ward 4, sai apartment road
Date of testing: 08.03.2021
Type of Mix: Dense Bituminous Macadam

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for DBM Grade II (50-75mm) Bitumen Content 4.5 min VG-30
2. Weight of Mixture after Test, gm	476	
3. Weight of Bitumen Extracted, gm	24	
4. Bitumen content in %	4.8	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 476 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500-10
37.5	0	0.00	0.00	100.00	100
26.5	46	9.66	9.66	90.34	90 - 100
19	84	17.65	27.31	72.69	71-95
13.2	78	16.39	43.70	56.30	56-80
4.75	87	18.28	61.97	38.03	38-54
2.36	44	9.24	71.22	28.78	28-42
0.3	74	15.55	86.76	13.24	7-21
0.075	25	5.25	92.02	7.98	2-8

Asst. Executive Engineer BBMP Yelahanka Sub Division

Remarks:
The tested sample is found to be satisfactory as it meets the requirements of theMORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By: Pushpa D B
Tested By: Ashwini
Project Manager

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42277023/24, 9535200024, Email : info@gcsfirm.com, goolyconsultancyservices@yahoo.com, www.gcslabindia.com

Date : 17/02/2021

Sample ID No: 10119-1

Sl.No	Physical properties	Results	Units	Requirement as per IS 269: 2015		
				33 Grade	43 Grade	53 Grade
9	Compressive Strength					
	3 Days	17.0	N/mm^2	Min 16 N/mm^2	Min 23 N/mm^2	Min 27 N/mm^2
	7 Days	24.5	N/mm^2	Min 22 N/mm^2	Min 33 N/mm^2	Min 37 N/mm^2
	28 Days	35.0	N/mm^2	Min 33 N/mm^2, Max 48 N/mm^2	Min 43 N/mm^2, Max 58 N/mm^2	Min 53 N/mm^2

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the IS 1489 (Part - 2) Specification/Project Requirement.

1. The test results pertain to the number of sample Received and Tested
2. Any correction in the report will make this report invalid.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Asst. Executive Engineer
BBMP
Yelahanka Sub Division

Gooly Consultancy Services Bangalore

Prepared By: Deepthi PT

Tested By: Pushpa D.B

Project Manager

ಸಹಾಯಕ ಕಾರ್ಯ ಪಾಲಕ ಅಭಿಯಂತರರ ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ, ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

Lab ID : GCS-138-10119-2
Date : 23/01/2021

TEST REPORT ON MECHANICAL PROPERTIES OF COARSE AGGREGATES

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Sample ID No: 10119-2
Location: Ch:0.00 to 219m ward 2, East Kamakshamma layout, main road
Sample Identification*: 20mm down size Coarse Aggregate
Sampling : Sample Received from the site and Tested
Reference to BIS codes: **Test Method:**
IS 2386 (Part 1) : 1963 (RA 2016) Particle Size And Shape Cl.2
IS 2386 (Part 3) : 1963 (RA 2016) Specific gravity, density, voids, absorption and bulking
IS 2386 (Part 4) : 1963 (RA 2016) Mechanical Properties
Specification:
IS 383 : 2016 Coarse And Fine Aggregate For Concrete
Condition of sample: Satisfactory
Date of test: 19/01/2021 to 23/01/2021

Asst. Executive Engineer BBMP Yelahanka Sub Division

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM COARSE AGGREGATE:

Total weight taken: 5000 grams

Sl.No	Sieve Designation	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Requirement as per IS 383: 2016 Table-7 (Cl 6.1 & 6.2)	
						Graded	Single-Sized
1	40 mm	0	0	0	100	100	100
2	20 mm	365	365	7.3	92.7	90-100	85-100
3	10 mm	3025	3390	67.8	32.2	25-55	0-20
4	4.75 mm	1123	4513	90.26	9.74	0-10	0-5
5	Pan	487	5000	100	0	—	—

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ,
ಯಲಹಂಕ ಉಪವಿಭಾಗ-106

Date : 23/01/2021

Sample ID No: 10119-2

MECHANICAL PROPERTIES

Sl.No	Tests	Result	Requirements as per IS 383 : 2016
1	Flakiness Index (%)	10.90	Combined flakiness & elongation index shall not exceed 40 % for uncrushed or crushed aggregate
2	Elongation Index (%)	11.60	
3	Bulk density (Loose) (kg/l)	1.46	–
4	Bulk density (Compacted) (kg/l)	1.52	–
5	Specific Gravity	2.60	–
6	Water Absorption (%)	0.20	–
7	Aggregate crushing strength (%)	24	For Aggregates to be used in concrete for wearing surfaces, (such as runways, roads, pavements, tunnel lining carrying water, spillways and stilling basins): Max 30 %

AE-1

Remarks:-

The tested sample is found to be satisfactory as it meets the requirements of the IS 383 : 2016 Specification/Project Requirement where as the gradation confirms to graded aggregate.

1. The test results pertain to the number of samples Received from the site and Tested
2. Any correction in the report will make this report invalidate
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Test Executive Engineer
Yelahanka Sub Division
RRMP

Gooly Consultancy Services Bangalore

Prepared By: Pushpa D B

Tested By: Vikas K Kaushik

Project Manager

AE W-01

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
ಬೆಂಗಳೂರು-106

Lab ID : GCS-138-10119-4
Date : 25.01.2021

TEST REPORT ON MECHANICAL PROPERTIES OF REINFORCEMENT STEEL

Name of Client: Executive Engineer Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)

Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Receipt: 18.01.2021
Location: Ch:0.00 to 219m ward 2, East Kamakshamma layout, main road
Sampling : Sample Received from the site and Tested
Reference to BIS codes: **Test Method:**
IS 1608 (Part 1) : 2018, Metallic Materials, Tensile Testing, Method of Test at Room Temperature
IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement - Bend & Rebend Test
Specification:
IS 1786 : 2008 (RA 2018) High strength deformed steel bars and wires for concrete reinforcement
Condition of sample: Satisfactory
Date of test: 19/01/2021 to 23/01/2021

AE-1

Sl. No	Sample Identification	Sample ID No	Nominal size (dia in mm)	Mass per meter (kg/meter)	TENSILE STRENGTH				Bend Test	Re Bend Test
					0.20 % proof stress/ yield stress (N/mm^2)	Tensile strength (N/mm^2)	TS/YS ratio	Elongation percent on gauge length		
1	RD TMT Fe 550	10119-4/1a	08	0.395	705	778	1.10	25.0	–	–
	RD TMT Fe 550	10119-4/1b	08	0.396	–	–	–	–	No Rupture or Crack Visible	–
	RD TMT Fe 550	10119-4/1c	08	0.394	–	–	–	–	–	No Rupture or Crack Visible

AE-01

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ಯಲಹಂಕ ಉಪವಿಭಾಗ ಉಪವಿಭಾಗ,
ಬ.ಬ.ಪಾ.ಕ. ಬೆಂಗಳೂರು-106

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076
Contact : +91-80-42277023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Sl.No	Sample Identification mark on CC Cubes	Location	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of cube (grams)	Failure Load (kN)	Compressive strength (N/mm²)	Average Compressive strength of 3 Cubes (N/mm²)
15	1/1	2nd Main Road Connection LHS	M-20	27-Jan-21	24-Feb-21	150*150 *150	22500	8421	460	20.5	20.3
	1/2	2nd Main Road Connection LHS	M-20	27-Jan-21	24-Feb-21	150*150 *150	22500	8535	461	20.5	
	1/3	2nd Main Road Connection LHS	M-20	27-Jan-21	24-Feb-21	150*150 *150	22500	8530	450	20.0	
16	1/1	2nd Main Road Connection LHS	M-20	29-Jan-21	26-Feb-21	150*150 *150	22500	8466	455	20.2	20.6
	1/2	2nd Main Road Connection LHS	M-20	29-Jan-21	26-Feb-21	150*150 *150	22500	8537	460	20.5	
	1/3	2nd Main Road Connection LHS	M-20	29-Jan-21	26-Feb-21	150*150 *150	22500	8529	475	21.1	
17	1/1	2nd Main Road Connection LHS	M-20	30-Jan-21	27-Feb-21	150*150 *150	22500	8421	460	20.5	20.3
	1/2	2nd Main Road Connection LHS	M-20	30-Jan-21	27-Feb-21	150*150 *150	22500	8535	461	20.5	
	1/3	2nd Main Road Connection LHS	M-20	30-Jan-21	27-Feb-21	150*150 *150	22500	8530	450	20.0	

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the IS 456 : 2000 specification / project requirement with respect to above tests conducted

1. The test results pertain to the number of samples as furnished by the customer
2. Any correction in the report will make this report invalid.
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By:
Pushpa D B

Tested By:
Ashwini

Gooly Consultancy Services Bangalore
Project Manager

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off : No. 230, Opp. G.R. Lavender Apartments, Sai Enclave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91-80-42217023/24, 9535200824, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-138-10119-3

Date : 25.01.2021

TEST REPORT ON PHYSICAL PROPERTIES OF FINE AGGREGATE

Name of Client: Bruhat Bangalore Mahanagara Palike

Address: Yelahanka Division

Package No: Package - 04

Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)

Name Contractor: M/s Nandi Constructions

Name of PMC: M/s Gooly Consultancy services, Bangalore

Date of Receipt: 18.01.2021

Sample ID No: 10119-3

Location: Ch:0.00 to 132m ward 1, Maruthinagara,3rd main 5th cross

Sampling : Sample Received from the site and Tested

Sample Identification*: M-Sand

Reference to BIS codes: **Test Method:**

IS 2386 (Part 1) : 1963 (RA 2016) Particle Size And Shape Cl.2

IS 2386 (Part 3) : 1963 (RA 2016) Specific gravity, density, voids, absorption and bulking

IS 2386 (Part 4) :1963 (RA 2016) Mechanical Properties

Specification:

IS 383 : 2016 Coarse and fine aggregate for concrete

Condition of sample: Satisfactory

Date of test: 19/01/2021 to 23/01/2021

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF FINE AGGREGATE:

Total weight taken: 1000 grams

SL.No	Sieve Designation	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383 : 2016 Table-9, (Cl-6.3)				Remarks
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV	
1	10 mm	0	0	0	100	100	100	100	100	The tested Sample confirms to Grading Zone- II
2	4.75 mm	0	0	0	100	90-100	90-100	90-100	95-100	
3	2.36 mm	66	66	6.6	93.4	60-95	75-100	85-100	95-100	
4	1.18 mm	313	379	37.9	62.1	30-70	55-90	75-100	90-100	
5	600 micron	243	622	62.2	37.8	15-34	35-59	60-79	80-100	
6	300 micron	292	914	91.4	8.6	5-20	8-30	12-40	15-50	
7	150 micron	53	967	96.7	3.3	0-10	0-10	0-10	0-15	
8	Pan	33	1000	100	0	---	---	---	---	

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಧಿಕಾರಿಯವರ
ಕಛೇರಿ ಬಿಬಿಎಂಪಿ ಯಲಹಂಕ ಉಪವಿಭಾಗ,
ಬೆಂಗಳೂರು-106

Testing of Construction Material - Mechanical & Chemical, Soil & Non Destructive Testing Services, Project Management Consultancy,
Third Party Quality Assurance, Detailed Project Report, Rehabilitation, Road Safety Review & Structural design

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off. : No. 230, Opp. G.K. Lavender Apartments, Sai Endave Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076
Contact: +91-80-42273023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Date : 23/01/2021

Sample ID No: 10119-2

MECHANICAL PROPERTIES

Sl.No	Tests	Result	Requirements as per IS 383 : 2016
1	Flakiness Index (%)	10.60	Combined flakiness & elongation index shall not exceed 40 % for uncrushed or crushed aggregate
2	Elongation Index (%)	11.80	
3	Bulk density (Loose) (kg/l)	1.45	-
4	Bulk density (Compacted) (kg/l)	1.55	-
5	Specific Gravity	2.65	-
6	Water Absorption (%)	0.20	-
7	Aggregate crushing strength (%)	25	For Aggregates to be used in concrete for wearing surfaces, (such as runways, roads, pavements, tunnel lining carrying water, spillways and stilling basins): Max 30 %

Remarks:-

The tested sample is found to be satisfactory as it meets the requirements of the IS 383 : 2016 Specification/Project Requirement where as the gradation confirms to graded aggregate.

1. The test results pertain to the number of samples Received from the site and Tested
2. Any correction in the report will make this report invalidate
3. This report without prior written approval should not be reproduced or published in full or part.
4. Samples will be disposed after 90 days from the date of issue of test certificate.

Prepared By: Pushpa D B

Tested By: Vikas K Kaushik

Project Manager

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ

GOOLY CONSULTANCY SERVICES
ISO 9001 : 2015 Certified & NABL Accreditated Laboratory as per ISO/IEC - 17025 - 2017
Corporate off. : No. 230, Opp. G.R. Lavender Apartments, Sai Endowe Layout, Kothanur Dinne, J.P. Nagar 8th Phase, Bangalore - 560 076.
Contact: +91 80-42271023/24, 9535200024, 8431662730, Email : info@goolyconsultancy.com, goolylab@gmail.com, Website : www.goolyconsultancy.com

Lab ID : GCS-138-10119-8

Date : 17.03.2021

TEST REPORTS FOR BITUMEN CONTENT & GRADATION OF BITUMINOUS CONCRETE

Name of Client: Bruhat Bangalore Mahanagara Palike
Address: Yelahanka Division
Package No: Package - 04
Name of Work: Comprehensive development of roads, drains at Maruthinagara 3rd main Road,Mathru layout, Someshwara nagara, Sharada nagara and B sector in ward no - 01, 02 & 04 of Yelahanka Division (Package No - 04)
Name Contractor: M/s Nandi Constructions
Name of PMC: M/s Gooly Consultancy services, Bangalore
Date of Sample Collection: 16.03.2021
Chainage/Location /Land Mark: 1st Main 19th Cross Road, Maruthinagar ward 01
Date of testing: 16.03.2021
Type of Mix: Bituminous Concrete

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Requirements
1. Weight of Mixture before Test, gm	500	As per MORTH Specification for Grade II Vide Table 500.17 Binder Content 5.4% min
2. Weight of Mixture after Test, gm	472	
3. Weight of Binder Extracted, gm	28	
4. Binder content in %	5.6	

GRADATION AFTER EXTRACTION

TOTAL WEIGHT OF SAMPLE: 472 gms

SIEVE SIZE in mm	Weight Retained in gm	% Retained	Cumulative % Retained	% Passing	Requirements as per MORTH Specification Table 500.17
19	0	0.00	0.00	100.00	100
13.2	41	8.69	8.69	91.31	90 - 100
9.5	51	10.81	19.49	80.51	70-88
4.75	77	16.31	35.81	64.19	53-71
2.36	65	13.77	49.58	50.42	42-58
1.18	44	9.32	58.90	41.10	34-48
0.6	52	11.02	69.92	30.08	26-38
0.3	36	7.63	77.54	22.46	18-28
0.15	42	8.90	86.44	13.56	12-20
0.075	20	4.24	90.68	9.32	4-10

Remarks:

The tested sample is found to be satisfactory as it meets the requirements of the MORTH Specification/Project Requirement.

1. Any correction in the report will make this report invalid.
2. This report without prior written approval should not be reproduced or published in full or part
3. This report without prior written approval should not be reproduced or published in full or part
4. Samples will be disposed after 90 days from the date of issue of test certificate

Prepared By: Pushpa D B

Tested By: Ashwini

Gooly Consultancy Services Bangalore

Project Manager